CLAIMS

What is claimed is:

1. An apparatus comprising:

a first hinge pin protruding from a first side of a cooling device;

a first lock pin protruding from the first side of the cooling device in a direction that is substantially parallel to the first hinge pin;

a first mounting base;

a first central beam of elongate and curving shape, and protruding from the first mounting base;

a first hinge pin holding beam of elongate and curving shape, protruding from the first mounting base along the inner side of the curve of the first central beam, and defining a first channel between the first hinge pin holding beam and the first central beam having an open end to receive the first hinge pin; and

a first lock pin holding beam of elongate and curving shape, protruding from the first mounting base along the outer side of the curve of the first central beam, and defining a curved second channel between the first lock pin holding beam and the first central beam having an open end to receive the first lock pin.

2. The apparatus of claim 1, further comprising:

a first bump formed on the first hinge pin holding beam and protruding into the first channel in the vicinity of the open end of the first channel so as to constrict the width of the open end of the first channel to releasably retain the first hinge pin; and

a second bump formed on the first lock pin holding beam and protruding into the second channel in the vicinity of the open end of the second channel so

as to constrict the width of the open end of the second channel to releasably retain the first lock pin.

3. The apparatus of claim 2, further comprising a first thumb tab formed at the end of the first hinge pin holding beam furthest from the first mounting base, wherein the first hinge pin holding beam is flexible so as to enable the first thumb tab to be operated to bend the first hinge pin holding beam so as to move the first bump to widen the open end of the first channel to allow the first hinge pin to be released from within the first channel.

4. The apparatus of claim 2, further comprising a third bump formed on the first lock pin holding beam, protruding into the second channel, and positioned adjacent to the second bump to cooperate with the second bump to releasably retain the first lock pin substantially motionless within the second channel in the vicinity of the open end of the second channel.

5. The apparatus of claim 2, further comprising a second thumb tab formed at the end of the first lock pin holding beam furthest from the first mounting base, wherein the first lock pin holding beam is flexible so as to enable the second thumb tab to be operated to bend the first lock pin holding beam so as to move the second bump and to widen the open end of the second channel to allow the first lock pin to be released from within the second channel.

6. The apparatus of claim 2, further comprising a flexible and curving first lock pin indicator beam protruding from the first mounting base and into the second channel to cooperate with the first lock pin holding beam to form a pocket to receive and releasably retain the first lock pin substantially motionless

at the end of the second channel opposite to the open end of the second channel at which the second bump is positioned.

7. The apparatus of claim 1, further comprising:

a second hinge pin protruding from a second side of the cooling device that is opposite the first side;

a second lock pin protruding from the second side of the cooling device in a direction that is substantially parallel to the second hinge pin;

a second mounting base;

a second central beam of elongate and curving shape, and protruding from the second mounting base;

a second hinge pin holding beam of elongate and curving shape, protruding from the second mounting base along the inner side of the curve of the second central beam, and defining a third channel between the second hinge pin holding beam and the second central beam having an open end to receive the second hinge pin; and

a second lock pin holding beam of elongate and curving shape, protruding from the second mounting base along the outer side of the curve of the second central beam, and defining a curved fourth channel between the second lock pin holding beam and the second central beam having an open end to receive the second lock pin.

8. The apparatus of claim 7, further comprising:

a fourth bump formed on the second hinge pin holding beam and protruding into the third channel in the vicinity of the open end of the third channel so as to constrict the width of the open end of the third channel to releasably retain the second hinge pin; and

a five bump formed on the second lock pin holding beam and protruding into the fourth channel in the vicinity of the open end of the fourth channel so as to constrict the width of the open end of the fourth channel to releasably retain the second lock pin.

9. An apparatus comprising:

a chassis of an electronic device having an integrated circuit to be cooled;

a first mounting base attached to an interior surface of the chassis;

a first central beam of elongate and curving shape, and protruding from the first mounting base;

a first hinge pin holding beam of elongate and curving shape, protruding from the first mounting base along the inner side of the curve of the first central beam, and defining a first channel between the first hinge pin holding beam and the first central beam having an open end to receive a first hinge pin protruding from a first side of a cooling device; and

a first lock pin holding beam of elongate and curving shape, protruding from the first mounting base along the outer side of the curve of the first central beam, and defining a curved second channel between the first lock pin holding beam and the first central beam having an open end to receive a first lock pin also protruding from the first side of the cooling device.

10. The apparatus of claim 9, further comprising:

a first bump formed on the first hinge pin holding beam and protruding into the first channel in the vicinity of the open end of the first channel so as to constrict the width of the open end of the first channel to releasably retain the first hinge pin; and

a second bump formed on the first lock pin holding beam and protruding into the second channel in the vicinity of the open end of the second channel so as to constrict the width of the open end of the second channel to releasably retain the first lock pin.

11. The apparatus of claim 10, further comprising a first thumb tab formed at the end of the first hinge pin holding beam furthest from the first mounting base, wherein the first hinge pin holding beam is flexible so as to enable the first thumb tab to be operated to bend the first hinge pin holding beam so as to move the first bump to widen the open end of the first channel to allow the first hinge pin to be released from within the first channel.

12. The apparatus of claim 10, further comprising a third bump formed on the first lock pin holding beam, protruding into the second channel, and positioned adjacent to the second bump to cooperate with the second bump to releasably retain the first lock pin substantially motionless within the second channel in the vicinity of the open end of the second channel.

13. The apparatus of claim 10, further comprising a second thumb tab formed at the end of the first lock pin holding beam furthest from the first mounting base, wherein the first lock pin holding beam is flexible so as to enable the second thumb tab to be operated to bend the first lock pin holding beam so as to move the second bump and to widen the open end of the second channel to allow the first lock pin to be released from within the second channel.

14. The apparatus of claim 10, further comprising a flexible and curving first lock pin indicator beam protruding from the first mounting base and into the

second channel to cooperate with the first lock pin holding beam to form a pocket to receive and releasably retain the first lock pin substantially motionless at the end of the second channel opposite to the open end of the second channel at which the second bump is positioned.

15. The apparatus of claim 9, further comprising:

a second mounting base attached to an interior surface of the chassis;

a second central beam of elongate and curving shape, and protruding from the second mounting base;

a second hinge pin holding beam of elongate and curving shape, protruding from the second mounting base along the inner side of the curve of the second central beam, and defining a third channel between the second hinge pin holding beam and the second central beam having an open end to receive a second hinge pin protruding from a second side of the cooling device that is opposite the first side of the cooling device; and

a second lock pin holding beam of elongate and curving shape, protruding from the second mounting base along the outer side of the curve of the second central beam, and defining a curved fourth channel between the second lock pin holding beam and the second central beam having an open end to receive a second lock pin also protruding from the second side of the cooling device.

16. The apparatus of claim 15, further comprising:

a fourth bump formed on the second hinge pin holding beam and protruding into the third channel in the vicinity of the open end of the third channel so as to constrict the width of the open end of the third channel to releasably retain the second hinge pin; and

a five bump formed on the second lock pin holding beam and protruding into the fourth channel in the vicinity of the open end of the fourth channel so as to constrict the width of the open end of the fourth channel to releasably retain the second lock pin.

17. The apparatus of claim 9, further comprising a crossbeam attached to at least one interior surface of the chassis having a tab to engage a screw protruding through a corresponding tab extending from the cooling device.

18. The apparatus of claim 9, further comprising an air inlet formed through a portion of the chassis to align with a corresponding air inlet formed through a third side of the cooling device when the cooling device is installed within the chassis such that the first hinge pin is inserted into the first channel, the first lock pin is inserted into the second channel, and the cooling device is pivoted along the axis of the first hinge pin to a position at which the cooling device is entirely within the chassis.

19. The apparatus of claim 9, wherein the cooling device cools the integrated circuit by transfer of heat away from the integrated circuit and to the cooling device through a liquid coolant.

20. A hinge mount comprising:

a first mounting base formed from an electrically insulating material;

a first central beam of elongate and curving shape, and protruding from the first mounting base;

a first hinge pin holding beam of elongate and curving shape, protruding from the first mounting base along the inner side of the curve of the first central

beam, and defining a first channel between the first hinge pin holding beam and the first central beam having an open end to receive a first hinge pin protruding from a side of a cooling device; and

a first lock pin holding beam of elongate and curving shape, protruding from the first mounting base along the outer side of the curve of the first central beam, and defining a curved second channel between the first lock pin holding beam and the first central beam having an open end to receive a first lock pin protruding from a side of a cooling device.

21. The hinge mount of claim 20, further comprising:

a first bump formed on the first hinge pin holding beam and protruding into the first channel in the vicinity of the open end of the first channel so as to constrict the width of the open end of the first channel to releasably retain the first hinge pin; and

a second bump formed on the first lock pin holding beam and protruding into the second channel in the vicinity of the open end of the second channel so as to constrict the width of the open end of the second channel to releasably retain the first lock pin.

22. The hinge mount of claim 21, further comprising a first thumb tab formed at the end of the first hinge pin holding beam furthest from the first mounting base, wherein the first hinge pin holding beam is flexible so as to enable the first thumb tab to be operated to bend the first hinge pin holding beam so as to move the first bump to widen the open end of the first channel to allow the first hinge pin to be released from within the first channel.

23. The hinge mount of claim 21, further comprising a third bump formed on the first lock pin holding beam, protruding into the second channel, and positioned adjacent to the second bump to cooperate with the second bump to releasably retain the first lock pin substantially motionless within the second channel in the vicinity of the open end of the second channel.

24. The hinge mount of claim 21, further comprising a second thumb tab formed at the end of the first lock pin holding beam furthest from the first mounting base, wherein the first lock pin holding beam is flexible so as to enable the second thumb tab to be operated to bend the first lock pin holding beam so as to move the second bump and to widen the open end of the second channel to allow the first lock pin to be released from within the second channel.

25. The hinge mount of claim 21, further comprising a flexible and curving first lock pin indicator beam protruding from the first mounting base and into the second channel to cooperate with the first lock pin holding beam to form a pocket to receive and releasably retain the first lock pin substantially motionless at the end of the second channel opposite to the open end of the second channel at which the second bump is positioned.

26. The hinge mount of claim 20, wherein the hinge mounting base, the first central beam, the first hinge pin holding beam and the lock pin holding beam are fabricated from plastic.